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ORACLE AMERICA, INC.

19  
20 **UNITED STATES DISTRICT COURT**  
21 **NORTHERN DISTRICT OF CALIFORNIA**  
22 **SAN FRANCISCO DIVISION**

23 ORACLE AMERICA, INC.

Case No. CV 10-03561 WHA

24 Plaintiff,

**DECLARATION OF JOHN R. ROSE IN  
SUPPORT OF ORACLE AMERICA,  
INC.'S OPPOSITION TO GOOGLE'S  
MOTION TO STRIKE PORTIONS OF  
THIRD EXPERT REPORT**

25 v.

26 GOOGLE, INC.

27 Defendant.  
28  
Dept.: Courtroom 8, 19th Floor  
Judge: Honorable William H. Alsup

1 I, JOHN R. ROSE declare as follows:

2       1. I am an employee of Oracle America, Inc. (“Oracle”). My title is Consulting  
3 Engineer.

4       2. I have personal knowledge of the facts set forth herein. If called upon to testify, I  
5 could and would testify as follows.

6       3. I have a bachelor’s degree in mathematics with honors from U.C. Santa Barbara  
7 College of Creative Studies, and a bachelor’s degree in English literature with honors from U.C.  
8 Santa Barbara College of Letters and Sciences. I hold a number of patents on Java technology.

9       4. I have been employed as an engineer with Sun Microsystems, Inc. (“Sun”), now  
10 Oracle, since approximately 1988. Through my years of working at Sun, I have become very familiar  
11 with the Java technology, and I have helped to design and improve the Java platform as part of my  
12 regular work responsibilities at various points throughout my tenure at Sun, now Oracle.

13       5. For example, I have experience in building Java virtual machines with emphasis on  
14 JIT and interpreter modules. I have also done specific work in application file formats for Java  
15 packaging, I have contributed to class file formats, and I have done additional work on methods to  
16 quickly boot up a Java application. I created the Multi-Language Virtual Machine Project in  
17 OpenJDK, also known as the “Da Vinci Machine,” to explore JVM architectural support for non-Java  
18 languages. My other contributions to Java Platform specifications and reference implementations  
19 include the following:

- 20           • Java Inner Classes - principal designer, specifier and implementer, including javac  
21            modifications;
- 22           • JSR 200 (“Pack”) – Specification Co-Lead, algorithm designer, lead implementer.;
- 23           • JSR 41 (“assert”) – (non-EG) consulted with Josh Bloch on language and JVM issues;
- 24           • JSR 202 (“split verifier”) – (non-EG) key JVM consultant on StackMapTable format;
- 25           • JSR 241 (“Groovy”) – active EG member; wrote ANTLR-based grammar; and
- 26           • JSR 292 (“invokedynamic”) – Specification Lead, principal designer, EDR author,  
27            lead implementer.

1       6. I have published articles and made numerous presentations about my work related to  
2 Java virtual machines. In addition, technology that I have designed could be and in fact has been  
3 used in mobile devices such as smartphones.

4       7. I was therefore employed at Sun, and knowledgeable about the Java technology, in the  
5 2006 time frame, when Sun and Google were actually negotiating for a Java license for Android.

6       8. In addition to the experience I outlined above, I have direct experience with Java  
7 patents, and have direct experience evaluating the performance benefits that the inventions covered  
8 by the Java patents provide. I have evaluated patents in terms of their engineering performance  
9 before.

10      9. I, along with four of my colleagues at Oracle, was asked by counsel for Oracle to  
11 conduct an analysis of certain patents held by Sun Microsystems, Inc. in the spring of 2006.  
12 Specifically, counsel requested that we determine which of Sun's Java patents would have been  
13 potentially relevant to a smartphone platform in 2006, and then determine which of those patents  
14 would have been expected, from an engineering perspective, to provide the greatest benefits to such a  
15 platform.

16      10. Along with the other engineers, I concluded that we could provide the analysis  
17 requested by counsel through the following steps:

- 18       • Identify relevant "blocks" of technology corresponding to functions that would be  
19           expected to be useful to a smartphone platform in 2006;
- 20       • Identify what subset of Sun's patent portfolio would have been useful to a smartphone  
21           platform in 2006;
- 22       • Assign those potentially relevant patents to the technology blocks;
- 23       • Rank the relative importance of those technology blocks; and
- 24       • Rate the patents on a three-point scale.

25      11. I was not asked to provide any economic valuation of the patents in suit. Instead, my  
26 analysis of "value" was confined to the engineering benefit that the patents would be expected to  
27 provide a smartphone platform.

28      ///

1       12. Throughout the process, I understood that Dr. Mark Reinhold was the leader of the  
2 team. I understood that he would make all final decisions, and that I was helping him to review the  
3 patents in the interest of time and to ensure that the final analysis was as accurate and comprehensive  
4 as possible.

5       13. Dr. Reinhold asked me to begin working on this project on or about January 24, 2012.  
6 I had not done any work for Prof. Cockburn prior to that date.

7       14. At the outset of the process, I understand that George Simion of Oracle ran searches  
8 through Sun's patent databases to acquire a list of over 1,300 Java related patents that we were to  
9 review. I reviewed this list to make sure that it included all of the patents that I would expect to see,  
10 and confirmed that it did.

11       15. In the first step of the process, our team, led by Dr. Reinhold, identified 22 technology  
12 blocks that would have been relevant to a smartphone platform in 2006. We brainstormed the list of  
13 logical functional components on or about January 24, 2012; over the course of the next few days, we  
14 refined that list to come up with the final list of 22 blocks. In order to contribute to this exercise, I  
15 used my personal experience, expertise, understanding of Google's objectives in 2006 based on a  
16 Product Requirements Document that I understand Google provided to Sun in 2006, and knowledge  
17 of the Java platform. I am confident that the 22 technology blocks that we identified represent the  
18 full range of Java technology that would have been relevant to a smartphone in 2006.

19       16. In the second step of the process, our team as a whole, led by Dr. Reinhold, reviewed  
20 every one of the patents in the list of 1,300+ patents captured by the searches discussed above to  
21 determine which patents would have been relevant to a smartphone platform in 2006.

- 22           • Our team divided up the group of 1,300+ patents to ensure that every patent was  
23 evaluated by at least one person. We could not all look at every patent because of  
24 limitations on time. I personally looked at each patent I was assigned to evaluate with  
25 care, and I have no reason to believe my colleagues did not do the same.
- 26           • We reviewed the patents by looking at the titles, abstracts, descriptions, application  
27 dates, and inventor names. When we believed it would be useful to do so, we also  
28 reviewed the specification and claims by retrieving the patent from the USPTO web

1 site. This is a reasonable way to ascertain a patent's rough usefulness in a smartphone,  
2 because, in my experience, the abstract and description are written by engineers, will  
3 provide the most useful information to another engineer, and will explain the general  
4 purpose of a patent and its claimed invention with enough specificity to understand its  
5 scope, application, and potential advantages. In contrast, in my experience information  
6 in the claims is less useful.

- 7 • Although reviewing and categorizing the patents was time-consuming, it was not hard.  
8 Patents filed by Java engineers relating to improvements in Java technology use  
9 familiar terms, and in many cases I myself or another member of the team had direct  
10 experience with the invention or implementations of the invention.  
11 • I finished reviewing my portion of the 1,300+ patents on or about January 26, 2012.  
12 • When we had finished classifying each patent we were assigned to review, the  
13 members of the team who had special expertise with one or more of the technology  
14 blocks reviewed and confirmed the accuracy of our categorization. We discussed any  
15 inconsistently classified patents, and discussed any patents that I or one of my  
16 colleagues had indicated needed further attention or discussion.

17 17. At the end of this part of the process, I again reviewed the final list of all patents that  
18 could have been relevant in a smartphone platform in 2006. The final responsibility for deciding on  
19 the list of potentially relevant patents fell to Dr. Reinhold. After this process, Dr. Reinhold  
20 determined that 569 patents out of the original 1,300+ would, in fact, be potentially relevant to a  
21 smartphone platform in 2006, and had classified each of those patents into one of the 22 groups. I  
22 agreed with Dr. Reinhold's determinations.

23 18. In the third step of the process, our team, led by Dr. Reinhold, ranked the 22  
24 technology groups. We distinguished among them by determining the benefits they would be  
25 expected to provide a smartphone platform in terms of speed, startup, footprint (i.e. memory  
26 requirements), and security.

- 27 • We determined that these four criteria were reasonable criteria on which to rank the  
28 technology groups because software patents in the Java portfolio are almost always

1           designed to provide one of these benefits. In my experience, and based on my knowledge  
2           of the Java platform, if I were to consider what benefits I would want to provide a Java-  
3           based smartphone in 2006, these are the criteria I would choose. These are the criteria  
4           that we routinely used at Sun and now at Oracle to evaluate our own Java  
5           implementations.

- 6           • We ranked these groups independent of the patents that were contained within them.  
7           • Based on our ranking system, two or more groups occasionally tied.

8           19.       We had completed this process on or about January 31, 2012.

9           20.       In the fourth step of the process, our team, led by Dr. Reinhold, reviewed the specific  
10          patents and evaluated each on a three-point scale, in which the best score was a 1. The ratings  
11          reflected the benefit that our team, led by Dr. Reinhold, would have expected the patented inventions  
12          to provide a smartphone platform in 2006. The top rating, a 1, was reserved for those patents that  
13          were either required by the Java platform specification for compatibility, or that would bring an order  
14          of magnitude improvement to the key metrics of speed, startup, footprint, or security. The middle  
15          rating, 2, was assigned to patents that would bring a significant improvement to the key metrics of  
16          speed, startup, footprint, or security. The bottom rating, 3, was assigned to patents that would have  
17          been relevant but would not have provided the benefits of a 1 or 2 rated patent.

18           21.       By the time we began to rate the patents, we had reviewed many of them multiple  
19          times, in addition to our pre-existing familiarity with the underlying inventions. Again, I am  
20          confident that we had sufficient information to make an informed engineering assessment of the  
21          likely benefits of each patent. I and other senior engineers at Oracle, including each of the other four  
22          engineers on this assignment, regularly are called upon to make assessments of proposed innovations  
23          and improvements to Java technology. I and other engineers frequently make those assessments  
24          using information that is no more detailed than what is disclosed in the patent abstracts. In addition, I  
25          was able to apply my own knowledge of how the inventions had been implemented, and the  
26          engineering benefits (or lack thereof) that resulted. The other engineers often had similar experiences  
27          that they shared with the team as we reviewed the patents and that informed our collective  
28          assessment. I agreed with all of the ratings that we settled on as a group.

1       22. In summary, we concluded:

- 2           • A group of 569 patents would be relevant to a smartphone in 2006.
- 3           • Those 569 patents fit into 22 technology groups.
- 4           • The most important technology group is the Boot group.
- 5           • There were seven patents rated as 1 in the Boot group.
- 6           • The second most important technology group is the JIT group.
- 7           • There were twelve patents rated as 1 in the JIT group.
- 8           • The third most important technology group is the interpreter group.
- 9           • There were three patents rated as 1 in the interpreter group.
- 10          • It would not be possible, based solely on engineering considerations that would be  
11           knowable in 2006, to say which of the 22 patents we identified in the top three groups  
12           was the most or least valuable to a smartphone platform such as Android.

13        23. I believe that both the process we employed, and the results we came to, are  
14        reasonable and accurate. If I were on a team assigned to design a Java-based smartphone platform in  
15        2006, the three most important groups of technology in terms of startup, speed, and footprint would  
16        have been boot, JIT, and interpreter.

17        24. I am confident that the team had sufficient information to ascertain the correct rating  
18        for each patent, and that we had the collective expertise with the Java platform to understand the  
19        relative importance of every one of the technology groups in a smartphone platform in 2006 and  
20        every one of the patents in the list of 569. I do not believe that there is anyone at Oracle that we  
21        could have added to the team who would have improved the accuracy of the process or the results.

22        25. Although I have some knowledge of the Android platform, and I have assisted lawyers  
23        in analyses to determine whether Android infringes Oracle's patents, neither aspect of my work  
24        had any effect on my work for this assignment. My assistance in that regard was not confined to the  
25        seven patents on which Oracle has sued Google – I had looked at numerous other Java patents as  
26        well. I understand that Google has also claimed in papers filed with the Court I and my colleagues  
27        are “the very engineers who selected litigation patents at the outset.” I know that statement to be  
28        false with respect to me. I have never selected any patents for this litigation or any other.

1       26. I understand that Google has also claimed in papers filed with the Court that I and my  
2 colleagues “admitted in deposition that they spent next to no time compiling their rankings and were  
3 influenced by their prior work in this case.” I understand that Google also asserts in its papers that I  
4 and my colleagues “favor[ed] the patents they had already analyzed as part of this case.” I know that  
5 all of those assertions are entirely untrue with regard to me, and are contrary to everything I observed  
6 as I watched my colleagues perform their work alongside me. Together we spent significant time  
7 categorizing, evaluating, and rating the patents, and applied decades of directly relevant engineering  
8 experience to do so. There was sufficient time to do the analysis that we were asked to do, and to do  
9 so in a reliable and responsible manner. I did not “favor” any of the asserted patents for any reason  
10 related to the litigation, and I was not “influenced” by my prior work in the litigation. The assistance  
11 I provided to help determine whether Android infringes Java patents did not cause me to mis-  
12 categorize any patent, nor did it cause me to rate any patent higher or lower than its technical merits  
13 warranted. I considered each patent and technology group based on the objective engineering benefit  
14 I would have expected it to provide to a smartphone platform in 2006, in light of my engineering  
15 experience and my knowledge of Java technology. as described above.

16       I declare under penalty of perjury that the foregoing is true and correct.  
17

18 DATED: February 23, 2012

/s/ John R. Rose

19 JOHN R. ROSE  
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1 ATTESTATION OF FILER  
2

3 I, Steven C. Holtzman, have obtained John Rose's concurrence to file this document on his  
4 behalf.

5 Dated: February 24, 2012

BOIES, SCHILLER & FLEXNER LLP

6 By: /s/ Steven C. Holtzman  
Steven C. Holtzman

7 *Attorneys for Plaintiff*  
ORACLE AMERICA, INC.  
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